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# Factors Affecting Heavy Drinking Of Vocational Students in Northeast Thailand

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***Abstract:*** *In Thailand, there are measures to control and prevent the drinking of alcohol, but heavy drinking habits are on the increase and we still do not know the factors that cause heavy drinking in teenagers.*
***Objective****: To study factors affecting heavy drinking among vocational students in Northeast Thailand.*
***Materials and Methods****: A cross-sectional study was conducted among 1,006 students aged between 15-24 years, in Northeast Thailand.*
***Results****: Factors affecting heavy drinking were: 1) Smoking: smokers had a higher risk of alcohol consumption than non-smokers (2.04 times); 2) Parents welcome guests with alcoholic beverages: the students whose parents did not use alcoholic drinks for welcoming guests had a 0.56 times lower risk of alcohol consumption than those who did; 3) Drivers' knowledge: drivers who had knowledge about blood alcohol levels had a 0.62 times lower risk of alcohol consumption than those who did not know; 4) Driving while intoxicated: those who sometimes drove while they were intoxicated had a 0.34 times lower risk of accidents than those who often did, and 5) Selling alcoholic beverages to a person outside the restricted time: the stores that sometimes sold alcoholic beverages to people outside the restricted time had a 0.44 times lower risk of alcohol consumption than the stores that usually did so.*
***Conclusion****: The problem of heavy drinking of vocational students must be addressed and solved from all sectors at the family level, community level, and national level.*

***Keywords:*** *alcohol consumption, heavy drinking, alcoholic beverages, vocational students*.

## I. Introduction

The alcohol consumption rate of the world population is high and differs in each country. In each year, the death and disability rates caused by alcohol consumption have negative effects on people's lives and on average life expectancy which is measured by the number of years lost from disability and death (disability adjusted life years, DALY). Four percent of the world's disability and death is caused by the alcohol consumption, which is five times more than the figure for substance abuse. Traffic accidents, murders, and intentional injuries are caused by alcohol consumption. The proportion of the world's population varies depending on each region according to the data for per capita consumption[1]. People who are aged 15 years and older drink 10.9 liters of alcohol in Europe, 8.4 liters in America, and 3.4 liters in Asia.[1]

The per capita consumption[1]data reveal that the alcohol consumption rate of Thai citizens who are over 15 years old has been continuously increasing in the past 20 years. In 2003-2006, the alcohol consumption rate increased from 6.1 liters per person per year to 6.4 liters per person per year in 2008-2010, and then increased further to 8.3 liters per person per year by 2015.Additionally, in 2014, Thailand was ranked 40$^{th}$ in the world's alcohol consumption rankings. If classified by the type of beverages, Thailand is ranked the 5$^{th}$ in drinking whiskey or liquor (7.13 liters per person per year), 85$^{th}$ in drinking beer (1.31 liters per person per year), and 124$^{th}$ in drinking wine (0.04 liters per person per year). This result indicates that Thailand is one of the countries that has a high alcohol consumption rate.[1]

The major problem of drinking is health problems. Alcoholic beverages can cause over 60 diseases, such as liver cancer, heart disease, stroke, hypertension, etc. Alcohol consumption is ranked as the third risk factor of health in Thailand after unprotected sex and tobacco consumption. Moreover, the number one cause of death in Thailand in 2015 was cancer, while the most common cancers were liver cancer and Cholangio carcinoma, followed by lung cancer and tracheal cancer,[2]for which the main causes were the drinking and smoking problems of the Thai people.

The National Statistics Office (2014) studies the alcohol consumption behaviors of Thai people by comparing the tendencies and classifying by gender, age, and administrative regions. The survey results found that the alcohol consumption rate has increased by almost 6 times, rising from 1.0 percent to 5.6 percent. The

prevalence of regular drinkers was increased both in municipal and non-municipal areas by 11 percent. Women tended to drink regularly 2 times more than men did. Their alcohol consumption was 65 percent increased, while in men it was 33 percent increased. There was a significant increase in alcohol consumption among teenagers and youths aged 15-24 years old, increasing by 70 percent in 2014. The most popular types of alcoholic beverages among youths aged 15-24 years are beer (58.1 percent) all types of whiskey (37.6), including rice whiskey (22.1), and colored/red whiskey (13.6).[3]

The northeast of Thailand is a large region consisting of 20 provinces. The data from the Office of the Basic Education Commission and Office of the Vocational Education Commission (2015) show that the northeastern region has 61 educational regions. Additionally, there are 1,390,180 high school and vocational students (1,169,123 high school students and 221,057 vocational students) in 4,271 educational institutions (4,165 high schools and 106 vocational colleges).[3] This situation reflects that Thai youths in the northeast of Thailand have a high risk of alcohol consumption. If both public and private sectors do not implement enough preventive measures, many more Thai youths will drink alcoholic beverages in the future.

The alcohol consumption problem of the vocational students seriously needs to be prevented since it is a factor that could destroy the future of Thai society. The solution to this problem is not only the responsibility of youth but of every sector in society. There should be a conscientious monitoring system to achieve prevention. Every section has to prioritize the prevention and solution of the alcohol consumption problem among youths in order to reduce the problems in society and to encourage youths to stop drinking alcohol. Therefore, the objective is to study the factors related to alcohol consumption, including family, friends, environment, attitudes, motivation, knowledge, alcohol consumption measures, and alcohol consumption behavior of the vocational students who live in the northeast of Thailand.

## II. Materials and Methods

This research is a cross-sectional study. The data collection method included questionnaires which were created and developed by the researchers on the basis of studying related theories, concepts, documents, theses, and the literature. The structure of the questionnaires was divided into four parts which were as follows: 1) characteristics, 2) alcohol consumption behavior information, 3) factors related to alcohol consumption, and 4) alcohol consumption behaviors. The researcher has proposed a request for human research consideration. By being approved by the Human Research Ethics Committee, Khon Kaen University By adhering to the criteria according to the Declaration of Helsinki and good clinical practice guidelines (ICH GCP) provided on 23 March 2017, no.: HE 602027

## III. Participants

1) Age: 15-24 years old

2) First to third year students of Vocational Certificate courses who studied at government vocational education institutions in the northeast of Thailand under the Office of the Vocational Education Commission (VEC).

3) The sample size was calculated by using multivariate analysis for analyzing relationships, and multiple logistic regression for statistical analysis[4] (Hsieh et al., 1998). The random sampling used the method of Multi-Stage Random Sampling.

## IV. Results

**1. Characteristics** showed that the sample group mostly consisted of 19-year-old students (319 students/31.71 percent). Most of the students were males (774 male students/73.96 percent) and 346 of them were first year vocational students (34.39 percent). Many of the participants, numbering 339 students, studied Machine Tool Technology (33.70 percent)while 995 of the students were Buddhists (98.91 percent), 517 lived outside municipal areas (51.39 percent), and 683 did not smoke (67.89 percent). In the past 12 months, 322 students drank alcoholic beverages once in a while (8-11 days/a year) (32.01 percent). The most important cause of quitting alcohol was the law of the drink drive limit, which made it inconvenient to drink (93 students/30.29 percent).Meanwhile, 646 students of the sample group lived with their parents (64.21 percent). The majority for the parental marital status was living together (731 students/72.66 percent). Most of the students' fathers were employees (452 students/44.93 percent). Most of the students' mothers were employees (375 students/37.28 percent). Furthermore, 917 of the students received their living allowance from their parents (91.5 percent). The average family income was 18,750 baht per month.

**2. The alcohol consumption behaviors** indicated that most of the respondents started drinking alcoholic beverages for the first time at the age of 15.89 years old, and 481 of them drank beer, (47.81 percent). In addition, 649 of the students started drinking alcoholic beverages because they would like to try (64.51 percent), 439 of the sample group drank alcoholic beverages for the first time by saving money with friends to buy the drinks (43.64 percent), 549 of the students bought alcoholic beverages from grocery stores (54.57

percent), and 504 students drank alcohol at other people's houses (50.10 percent). After school (after 4.01 pm.) was the time when 845 of the students usually drank alcohol (84.00 percent). A total of 637 of them drank alcohol at their own places every month (1-3 days per week: month) (63.32 percent). The expenses for buying alcoholic beverages reached 435.33 baht per month. The time taken for buying alcoholic beverages starting from their houses was 9.54 minutes. A total of 610 of the participants seldom drank alcohol outside of their houses (60.64 percent). The average expense involved in going out for drinking was 477.96 baht per month. The time taken for buying the alcoholic beverages to drink "in their places" was 14.14 minutes, while 652 students reported drinking beer (64.81 percent).The frequency of drinking (in the past 12 months) of 325 students was once in a while (8-11 days per year) (32.31 percent). The type of container that was usually used by 550 students for drinking was the round glass (200 cc) (54.67 percent). The average amount of beer consumption per day was 1-1.5 cans (187 students/18.59 percent), and 209 students drank liquor at a rate of less than one drink measuring 2-3 lids (20.78 percent).

**3.Factors related to alcohol consumption** showed that the family was a factor related to alcohol consumption. In the sample group, 311 people had 2 family members who drank alcohol (30.91 percent). People in their families (of 387 students), including parents, siblings, and close relatives half agreed and half disagreed on alcohol consumption (38.47 percent). There was physical abuse in the families (of 834 students) caused by alcohol consumption (82.90 percent). Moreover, friends were another factor. More than 3 of their (346 students) close friends drank alcohol (34.39 percent). Almost all of their (325 students) friends accepted behavior linked to alcohol consumption (32.31 percent). At a moderate level, 411 students agreed that drinking alcohol could make them understand their friends better (40.85 percent). The environment factor showed that 944 of the students lived near places that sold alcoholic drinks which made it easy to buy alcoholic beverages (93.84 percent).

**4. Overall knowledge of alcohol consumption** showed that most students in the sample group had a low level of knowledge (lower than 60 percent), which accounted for 359 students (35.69 percent), while 346 students had a moderate level of knowledge, defined as 60-79.99 percent (34.39 percent), and 301 students had a high level of knowledge, defined as more than 80 percent (29.92 percent).

**5.Overall attitude on alcohol consumption** revealed that 745 students of the sample group had an attitude at a moderate level (23.34-6.66) (74.06 percent), while 203 students had an attitude at a high level (36.67-50.00) (20.18 percent), and 58 students had an attitude at a low level (lower than 10-23.33) (5.77 percent).

**6.Restriction on alcoholic beverages: educational measures and campaigns** showed that alcohol sale time restrictions were separated into 2 periods, of which the first period was during 11.00-14.00, and the second period was 17.00-24.00. Sometimes, 559 of the respondents (55.57 percent) had bought alcoholic beverages outside the restricted time (or outside 11.00-14.00 and 17.00-24.00).Most of the stores sometimes sold alcoholic beverages outside the restricted time or during 11.00-14.00 and 17.00-24.00 (593 respondents/58.95 percent). According to the advertising and promotional control measures for alcoholic beverages, alcoholic beverages advertisements and promotions, including giving discounts, giving the product away, and giving a bonus were prohibited. Therefore, 664 of the sample group (66.00 percent) had never seen alcoholic beverage advertisements and promotions, including giving discounts, giving the product away, and giving a bonus. Most of the stores never had alcoholic beverages advertisements and promotions (as claimed by 644 students/64.02 percent).There was a campaign for the image of an organization which did not encourage people to buy alcoholic beverages from 22:00 to 05:00, while 804 students (79.92 percent) had never seen any advertisements that encourage people to buy alcoholic beverages outside 22.00-05.00. A total of 707 of the sample group (70.28) had never seen or heard any alcoholic beverage advertisements on radio or TV, while 459 of the students (45.63) sometimes saw or heard alcoholic beverage advertisements on radio or TV.

**7. Alcohol Use Disorders Identification Test (AUDIT)** showed overall that 818 people (81.32 percent) in the sample group had a low level of risk (0-15 points), and 188 people (18.69 percent) had a high level of risk (≥16 points).

**2. Factors related to the alcohol consumption of the vocational students in the northeast of Thailand**

The study used multiple logistic regression with a technique of backward elimination. The study found magnitudes of effect as seen in the table below:

**Table 1:**Multiple logistic regression analysis between factors related to heavy alcohol consumption of the vocational students who lived in the northeast of Thailand (n = 1006)

| Factors | Amounts | %Al | Crude OR | Adjusted OR | 95%CI | P-value |
|---|---|---|---|---|---|---|
| 1. Smoking (in the past 30 days) | | | | | | <0.0001 |

| | | | | | | |
|---|---|---|---|---|---|---|
| No | 97 | 51.60 | 1 | 1 | 1 | |
| Yes | 55 | 29.26 | 2.70 | 2.04 | 1.34 to 3.11 | |
| Used to smoke | 36 | 19.15 | 1.99 | 1.76 | 1.10 to 2.84 | |
| 2. Parents welcome guests by using alcoholic drinks | | | | | | 0.0004 |
| Yes | 84 | 44.68 | 1 | 1 | 1 | |
| No | 482 | 58.92 | 0.46 | 0.56 | 0.33 to 0.66 | |
| 3. Drivers are not allowed to have a blood alcohol concentration of more than 50 mg/dl | | | | | | <0.0001 |
| No | 111 | 59.04 | 1 | 1 | 1 | |
| Yes | 569 | 69.56 | 0.63 | 0.62 | 0.43 to 0.88 | |
| 4. Drive while intoxicated | | | | | | <0.0001 |
| Often | 60 | 31.91 | 1 | 1 | 1 | |
| Sometimes | 78 | 41.49 | 0.35 | 0.34 | 0.22 to 0.54 | |
| Never | 50 | 26.60 | 0.29 | 0.45 | 0.27 to 0.75 | |
| 5. Stores that sell the alcoholic beverages outside the restricted time or during 11.00-14.00 and 17.00-24.00 | | | | | | 0.0062 |
| Often | 56 | 29.79 | 1 | 1 | 1 | |
| Sometimes | 112 | 59.57 | 0.33 | 0.44 | 0.28 to 0.68 | |
| Never | 20 | 10.64 | 0.11 | 0.13 | 0.07 to 0.24 | |

## V. Discussion

Those who smoke had a higher risk than those who did not smoke at 2.04 times greater (Adjusted OR = 2.04; 95% CI = 1.34 to 3.11; P-value <0.0001), and those who smoked but had already quit smoking had a higher risk of alcohol consumption than those who did not smoke at 2.04 times greater(Adjusted OR = 1.76; 95% CI = 1.10 to 2.84; P-value <0.0001)which was in accordance with the research of Uthaithip Chanpen (2011)[5] who studied factors that influenced the abnormal alcohol consumption of teenagers in Khon Kaen. Her research found that female teenagers who were at low risk and had smoked in the past month were more likely to be alcoholics than those had never smoked at 4.01 times greater (95%CI equal to 2.21-7.28). This result was also consistent with the study of Supaporn Sukkawerch (2009)[6] which was a study on the alcohol consumption of people of working age in Phanom District, Suratthani. The study found that people of working age who smoked had a higher chance of drinking alcohol which was 2.9 times greater than for those who did not smoke (95%CI: 1.8-4.5, Design Effect: 0.7).

The students whose parents did not use alcoholic drinks for welcoming guests had a 0.56 times lower risk of alcohol consumption than those students whose parents did use alcoholic drinks for welcoming guests (Adjusted OR = 0.56; 95% CI = 0.33 to 0.66; P-value = 0.0004) which was consistent with the research of Orathai Waleewong et al. (2010),[7]"A Study of Roles and Behaviors of Parents Affecting Alcohol Consumption in Youth". The research found that youths whose parents both drank alcohol had a 1.94 times higher chance of alcohol consumption than those whose parents did not drink (adjusted OR: 1.94, 95%CI: 1.19-3.14), and 1.74 times higher chance if one parent drank (adjusted OR: 1.74, 95%CI: 1.14-2.66).

Drivers who had the knowledge that drivers should not have a blood alcohol level higher than 50 mg/dl had a 0.62 times lower risk of alcohol consumption than those who did not have this knowledge that drivers should not have a blood alcohol level higher than 50 mg/dl had (Adjusted OR = 0.62; 95% CI = 0.43 to 0.88; P-value < 0.0001).According to the study of Wanida Winitjakul (2009),[8]"A Study of Media Exposure on Knowledge and Opinions Towards Campaign for Reducing Alcohol Consumption by Vocational Students in Bangkok", it was found that most of the sample participants knew that drivers were not allowed to have 50 mg/dl alcohol in their blood which accounted for 228 students or 65.71 percent (t = 0.621; P-value < 0.5030).

Those who sometimes drove while they were intoxicated had a 0.34 times lower risk of accidents than those who often drove while they were intoxicated (Adjusted OR = 0.34; 95% CI = 0.22 to 0.54; P-value <0.0001). Those who never drove while they were intoxicated had a 0.45 times lower risk of accidents than those who often drove while they were intoxicated (Adjusted OR = 0.45; 95% CI = 0.27 to 0.75; P-value <0.0001). These results were consistent with the study of Narongsak Noosorn et al. (2007),[9] which was a study of the effects of alcohol consumption in traffic accidents in the lower north of Thailand. The result found that traffic accidents were related to alcohol consumption with statistical significance (P-value = 0.009). It also found that those who were intoxicated while driving had a 2.833 times greater chance of having a traffic accident than those who were not intoxicated while driving, with statistical significance ($\chi 2 = 6.76$, P-value = 0.034).This indicates that those who drank alcoholic beverages were more likely to suffer severe injuries than those who did not drink when accidents occur.

According to the restrictions to alcoholic beverages access and purchase, the stores that sometimes sold alcoholic beverages to people outside the restricted time which was 11.00-14.00 and 17.00-24.00 had a 0.44 times lower risk of alcohol consumption than the stores that usually sold alcoholic beverages to people outside the restricted time (Adjusted OR = 0.44; 95% CI = 0.28 to 0.68; P-value = 0.0062). The stores that had never sold alcoholic beverages to people outside the restricted time which was 11.00-14.00 and 17.00-24.00 had a 0.13 times lower risk of alcohol consumption than the stores that usually sold alcoholic beverages to people outside the restricted time (Adjusted OR = 0.13; 95% CI = 0.07 to 0.24; P-value = 0.0062). The reason that some shops distributed alcoholic beverages to other people outside the may be because of their social and community conditions in which alcoholic beverages are generally available for easy purchase. Transportation is quite convenient and the familiarity between sellers and buyers is also a factor. These make the trade in alcoholic beverages in various groups very convenient even though several laws and measures have already been enforced.

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